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ABSTRACT

The Assistive Technology Program for Oklahoma Public Schools was developed to assist Oklahoma public schools in meeting the challenges of assistive technology service delivery as mandated by the Individuals with Disabilities Education Act (IDEA). The program is a collaborative effort between the Oklahoma State Department of Education's Special Education Services Division and the Assistive Technology Center of the University of Oklahoma Health Sciences Center. The program serves as a resource in assisting all schools in the state, offering such services as information dissemination, systematic staff training, technical assistance, access to resources, and development of a statewide network of assistive technology resource teams. Project IMPACT AT Preschool (Improving Mobility, Positioning, and Communication through Assistive Technology) gives Oklahoma preschool teachers and therapists training in the use of assistive technology and an opportunity to assess the functioning of their preschool students with various assistive technology devices. The project offers a lending library of assistive devices and training resources, as well as training for preschool teams in the assessment and programming of preschool students with developmental delays. A project evaluation at six preschool sites outlined project benefits to students and teachers and barriers to classroom use of assistive technology. A program evaluation form for Project IMPACT AT Preschool is included. Contains 10 references. (CDS)

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ASSISTIVE TECHNOLOGY IN OKLAHOMA PUBLIC SCHOOLS: A SERVICE DELIVERY MODEL FOR RURAL SCHOOLS

Introduction

In 1990 the definitions of assistive technology device and assistive technology service appeared in the Individuals with Disabilities Education Act (IDEA). Since that time public schools have been required to address the assistive technology needs of special education students and to provide assistive technology device(s) and/or service(s) when it is determined by the Individualized Education Program (IEP) team to be a necessary component of a child's free and appropriate public education. For many students with disabilities, the typical activities of school --asking the teacher a question, participating in a classroom discussion, reading a book, writing a story, playing at recess, or eating in the cafeteria--may be difficult or even impossible without the use of assistive technology.

The use of assistive technology may make it possible for a student who cannot speak to use an augmentative communication system to participate in classroom discussions, to ask and answer questions, or to participate in a pep rally with other students. Students who may not be able to hold a pen to write may be able to use an adapted pen, a computer, or a writing notebook to complete writing assignments. Other students may be able to play with their friends through the use of assistive technology. Although the promise of assistive technology is exciting, the reality is that public schools face many challenges related to meeting the assistive technology requirements of IDEA and continue to struggle in making the possibilities a reality.

The Challenges

There are many challenges associated with assistive technology service delivery and the public schools. Challenges such as limited guidance in meeting the law, the legal definitions, personnel skills and competencies, funding assistive technology, access to equipment, addressing assistive technology in the IEP, assistive technology assessment, and medical vs. educational need are just some of the issues facing public schools when addressing assistive technology (Bragg & Hartsell, 1997; Golden, 1997; and Reed, 1997).

Although IDEA 1990 and the 1997 amendments establish a legal mandate for schools to provide assistive technology device(s) and/or service(s), limited guidance for meeting these mandates has been provided from the federal level (Reed, 1997). In absence of clear guidelines, schools must rely on policy interpretation letters from the U. S. Office of Special Education, regulations and/or policy and procedures from state departments of special education, and local district interpretation. For many schools, the result is lack of clear procedures in how to address and provide assistive technology for students with disabilities. In many instances this causes schools to be in a reactive mode when addressing assistive technology as opposed to a proactive mode.

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The definition of an assistive technology device is very broad. IDEA defines an assistive technology device as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to maintain, or improve functional capabilities of children with disabilities." Given the scope of this definition, anything from a pencil grip to a computer to eye glasses could be considered an assistive technology device.

Many teachers and related service providers did not have assistive technology addressed as part of their preservice programs. As a result, these educators and related service professionals may not have an adequate knowledge base regarding assistive technology in order to make informed decisions regarding the use of AT with their students. Additionally, these educators or service providers may not have the necessary technical skills for supporting devices in the classroom environment or know how to integrate the use of the technology into instructional activities.

For many schools the funding of assistive technology devices and services is a major challenge. Although IDEA mandates that schools provide assistive technology when determined to be needed by an IEP team, there is not a separate funding stream or additional funding provided to schools for doing this. In some instances, schools may use lack of funding as an excuse to not provide assistive technology. This is certainly not legal. The law is also clear that all services including assistive technology which are part of a free and appropriate public education are to be provided at no cost to the family. Although the law does hold the schools responsible for acquiring the needed assistive technology devices and services, the law does allow flexibility for schools to pursue other funding options which might be available. Such options might include pursuing Medicaid funding to purchase devices which are considered medical in nature, pursuing funding assistance through service clubs such as Shriners or Lions, or coordinating with other agencies such as vocational rehabilitation. According to Morris & Golinker (1991) there are over twenty federal funding streams that could pay for assistive technology devices and services. The challenge still remains to identify the potential funding sources and then to work through the justification and application process for securing the funding needed.

Service providers need to have access to equipment (hardware and software) in order to try with students as part of the assessment process, to preview prior to purchasing, to increase knowledge and skills, or to have available for a short term basis while equipment is being repaired or purchased. Larger, urban districts may have developed their own equipment loan libraries in order to meet their local need or may have access to loan libraries located within the community. However, for small schools who are rural or outlying, having ready access to equipment may be a challenge. Many small, rural schools will not have the financial resources to develop an equipment library.

Addressing assistive technology in the IEP is also a challenge. Limited guidance is given from the federal level as to how to do this. IDEA simply states that when an IEP team determines that an assistive technology device or service is needed it must be included in the IEP either as special education, related services, or supplementary aids and services. According to Bowser & Reed (1998), there is no "right" place to include assistive technology in the IEP. The critical challenge here is to make that it is included in the IEP. In some instances, schools may not include assistive technology in the IEP seeking to avoid the responsibility.

One of the assistive technology services identified by IDEA is that of an assistive technology evaluation. This service may need to be provided in order to determine what type of assistive technology device(s) and or service(s) may be needed in order for the child to benefit from the educational program. The challenge to schools is to be able to provide this service once it has been determined to be needed. The intent of IDEA is that this service will be provided in the customary environment of the child. For

schools, the challenge and the implication is to have service providers trained at the local district level who can provide this service. If there are no local service providers who can do this; then, the school will need to contract with either an evaluation center or evaluators in order to provide this service.

The issue of medical vs. educational need is not new to the history of special education. Since the definition of assistive technology device is broad, a challenge schools now face is having to consider as assistive technology those devices which are considered personal use devices or individually prescribed devices such as eye glasses and hearing aids.

The Assistive Technology Program for Oklahoma Public Schools: A Statewide Model

In an effort to assist public schools in Oklahoma in meeting the challenges of assistive technology service delivery, The Assistive Technology Program for Oklahoma Public Schools was developed. This program is a collaborative effort between the Oklahoma State Department of Education/Special Education Services Division and the University of Oklahoma Health Sciences Center/Oklahoma Assistive Technology Center. The program is designed to serve as a resource in assisting all schools in Oklahoma. The program offers services such as information dissemination, training, technical assistance, access to resources, and development of a statewide network of assistive technology resource team members to assist public schools in addressing the assistive technology requirements of IDEA at the local district level. Since many of the public schools in Oklahoma are rural or outlying, it is critical that all schools develop the capacity for addressing and providing assistive technology at the local level.

Information Dissemination

The program serves as a source of information and help for school personnel and parents. Service providers need to know where to turn for help or information. Information describing the services available through this program is disseminated to all Oklahoma public schools on an annual basis. School personnel and parents can call a 1-800 number to get information about assistive technology or to ask questions regarding service delivery. This helps provide access to a professional resource who is knowledgeable about assistive technology and educational environments for service providers who are located in rural or outlying schools.

Training

A major component of this program is staff development. A variety of training opportunities are provided by this program including awareness sessions, an in-depth systematic training program for the development of local district assistive technology teams, advanced level training, focused training for model program development, and customized in-service based on local district request and need.

Awareness level sessions are one day sessions that provide general information about what assistive technology is, the benefits of assistive technology for students with disabilities, device demonstrations, or provide training on implementation strategies. These are introductory level trainings designed to increase awareness level knowledge. These sessions are provided regionally in order to make them more accessible to rural or outlying schools.

A systematic training program for the development of local district assistive technology teams is also provided through this program. This training involves administrative commitment to a team approach to assistive technology service delivery. Administrators must commit to identification of a multidisciplinary team who will serve as a resource to the district. Team members and the administrator

participate in a series of six training sessions throughout the school year. The training addresses the following competencies:

- Assess students assistive technology needs in the following areas of assistive technology (positioning, mobility, access, augmentative communication, computer assisted instruction, activities of daily living, recreation/leisure/play, environmental control, vision technology, and assistive listening device);
- Develop initial assessment questions and design assessment strategies;
- Identify and implement assistive technology services needed based on assessment results;
- Develop functional goals for students with assistive technology needs;
- Reduce fear associated with assistive technology by:
  - (a) increasing level of comfort with assistive technology implementation; and,
  - (b) increasing level of comfort as an Assistive Technology Team member;
- Identify team strengths and limitations and request assistance from appropriate outside professions, when needed; and,
- Develop a contact list of outside resources.

At the conclusion of this training series, teams demonstrate competency by providing an assistive technology assessment, writing a report with recommendations for devices and services, and addressing the recommendations in the IEP.

Another aspect of the team training is the development of capacity for service delivery at the local district level. Teams use a self-analysis tool such as the School Profile of Assistive Technology Services (Bowser & Reed, 1998) or the Region IV ESC Assistive Technology Team Seminars Innovation Configuration Matrix (Carl, Mataya, Zabala, et al., 1994) to examine components of effective service delivery for assistive technology teams in relationship to their programs. Teams identify present levels of service delivery utilizing this tool and then work together to generate an action plan for change. The tools are great for helping teams generate a vision for service delivery and helping them organize an action plan.

Administrative support and commitment is critical to the success of a team approach and for effective service delivery. In order to have effective service delivery, schools need to have policies or guidelines in place which explain assistive technology and the process for addressing the assistive technology needs for students.

Technical Assistance

Technical assistance is also provided through this program. Technical assistance is delivered through on site consultations at the local level, phone consultations, or by providing written materials. Program staff are also available to work with local district teams to assist with assistive technology assessments.

Increase Access to Resources

Regional assistive technology equipment loan programs have been established at ten Regional Education Service Centers in the state. Each location has designated an assistive technology contact who can provide support for the equipment as well as provide information about assistive technology. This helps to make devices more readily accessible to public school personnel for trial with students or for preview purposes.

Development of a Statewide Network

As local district teams are established, they are linked into a statewide network of assistive technology resource providers in order to develop collegial support. According to Bowser & Reed (1998), the development of collegial support is a critical component in effective system change for schools. The teams have opportunities to meet with each other and discuss common issues and challenges they face, to share solutions which have been effective, and to brainstorm solution possibilities.

This program provides a needed resource to Oklahoma public schools in meeting the challenges of addressing the assistive technology requirements of IDEA.

Project IMPACT AT Preschool: A District Model for Assistive Technology
(Improving Mobility, Positioning and Communication through Assistive Technology)

Background

Students with severe disabilities are often the most challenging and expensive to educate, but with the proper use of technology and educational planning, they have the ability for lifelong success. The purpose of assistive technology is to provide compensations for a disability so the student can continue to learn and develop functional skills. Children with severe disabilities may require up to 2,000 trials of practice to learn a new skill and they may have the ability to learn only 4 or 5 skills in their lives. Therefore, it is important to work on meaningful tasks and provide compensations (Bidabe, 1990). Young children learn and are motivated through play and children with disabilities are at a serious disadvantage because they are unable to play. Even when toys are offered to children, without adaptations, they become frustrated. The long term results of play deprivation will negatively impact a child's motivation and interaction (Angelo, 1997). In addition, locomotion which develops during the first years of life is also a primary vehicle for learning, socialization, and growth of a sense of competence. Therefore, restricted mobility in early childhood has a diffuse and lasting impact on an individual (Butler, Okamato & McKay, 1983). Children as young as 17 months can be taught to use power mobility and through use of this technology, children with physical disabilities are better able to explore and learn (Neely & Neely, 1993). Finally, communication is critical at every stage of life. Some children with disabilities are unable to communicate and frustration and helplessness are a result. Time must be spent in repairing the communication breakdown or compensating for the disability in severe expressive language disorders (Angelo, 1997). Assistive Technology extends the play and learning repertoire of young children. Very early use of adaptive toys, switches, computers, communication systems and positioning/mobility is effective in preventing learned helplessness and learning deficits (Swinth, Anson & Dietz, 1993).

After collaboration with the multidisciplinary preschool teams at Lawton Public Schools, a need to improve assessment practices and programming options using assistive technology, for functional activities of students with severe developmental delay was expressed. All preschool teams were surveyed in autumn, 1996 to determine what resources, training and equipment were needed to meet the unique educational needs of their students. A significant need for training was expressed to ensure that equipment was utilized appropriately.

A survey of staff at the Oklahoma Assistive Technology Center (OATC), who were the main suppliers of assistive technology evaluation and equipment in the state, revealed that their lending library had a constant waiting list of 1-3 months when lending augmentative and alternative communication devices and computers. In addition, they had no power wheelchairs or seating devices to loan to school

districts. Finally, they were located in Oklahoma City and it was difficult getting equipment to outlying regions of the state.

Funding issues also complicated the use of assistive technology at school. Third party payers (Medicaid and private insurance) required a student to demonstrate the ability to use a piece of equipment prior to providing funding. For example, Medicaid may require a videotape of the student using the device in different environments. Therefore, if school districts could assess students with different devices and show success in the classroom, the financial burden of school districts could be alleviated through collaboration with third party payers. Lawton Public Schools had no opportunity to do this and parents often looked to the school district as a sole provider of equipment funding.

Purpose/Program Design

The target population included 88 students with developmental delay, at 6 preschool sites. In addition, there were 135 students in regular preschool and kindergarten with developmental delay (speech only). Personnel using the assistive technology lending library were 8 teachers, 4 physical therapists, 1 occupational therapist, 6 speech therapists and regular educators of 3-5 year olds with developmental delay

The design of the Project IMPACT AT Preschool gave teachers and therapists training in the use of assistive technology and an opportunity to assess the function of preschool students in their classrooms with a variety of assistive technology devices, and to improve preschool programming by using innovative technology in conjunction with student IEPs. By having equipment available through a lending format, all teachers and therapists for students with developmental delay, throughout the district, had equal opportunity to assess and educate their students. Equipment ordered fell into the areas of communication, positioning/mobility, and computers/access devices. The training component of IMPACT AT Preschool was crucial to its success. The use of statewide and site based training promoted use of the lending library and assisted in establishing a group of professionals with assistive technology expertise in Lawton. In addition to training multidisciplinary preschool teams, all trainings were open to regular preschool, kindergarten teachers and parents. As young children with disabilities are educated in the least restrictive environment, all teachers will utilize knowledge of assistive technology in the classroom.

Outcomes of Project IMPACT AT Preschool

I: Implement the assistive technology lending library.

A. The project team will purchase, inventory, and install equipment and training resources for the lending library by September 1, 1997.

II: Improve assessment and programming of preschool students with developmental delay.

A. Multidisciplinary preschool teams will attend 80% of assistive technology training offered during the funded year.
B. By the end of each assessment period, students will meet 2 out of 3 goals stated by their teacher, therapist or parents at the beginning of the loan period.
C. During the funded year, teachers and therapists will provide feedback about the assessment period and benefits to their program, to the project coordinator, on each loan period.

Program Evaluation

Evaluation of Project IMPACT AT Preschool was conducted by checkout log review, training log review, and the following survey:

ASSESSMENT OF ASSISTIVE TECHNOLOGY EQUIPMENT LOAN

TEACHER/THERAPIST NAME:_____
BUILDING SITE:_____ PHONE:_____
DATE CHECKOUT:_____
DATE DUE:_____ DATE IN:_____ EXTENSION?_____
Staff authorizing checkout:_____

HOW MANY STUDENTS WILL USE THIS EQUIPMENT DURING THE TRIAL PERIOD?

LIST 3 OUTCOMES THAT THIS EQUIPMENT WILL HELP YOUR STUDENTS ACCOMPLISH: (EX. 1: Joe will make choices using the switch and new computer program. 2: Joe will use 3 keys on the keyboard. 3: Joe will drive his power wheelchair from class to the library. 4: Teacher will use the manual to learn computer program and implement it into her curriculum.)

1.
2.
3.

(COMPLETE UPON RETURN)
Which outcomes were met?

Were there other student achievements during the trial period?

Were there unexpected difficulties in using this equipment?

Did this equipment improve your current instructional program? How?

Training recommendations:

Comments:

Results

Project IMPACT at Preschool resulted in benefits to both service providers and students. The goal of implementing the library was met and the following were results: 1) 61 pieces of equipment were ordered with the $29,000.00, 2) 49 pieces of equipment were checked-out during the first year of operation, 3) 5 school sites were served 4) 26 teachers/ related service providers and 1 parent used the

library and 5) the top 5 requested devices were the Big Mack, Comfy Keyboard, Toy Clown and Jellybean switch, and the Rifton gait trainer.

The second goal of improving assessment and programming for students with developmental delay was also met. In order to improve preschool services, teachers and related services providers attended staff development. Throughout the year, the following 4 trainings were offered: Assistive Technology Introduction (23 attendees), Positioning and Mobility (7 attendees), Splinting Intervention (4 attendees), Community Open House (35 attendees), Project IMPACT AT Preschool presentation at local Council for Exceptional Children Chapter (20 attendees).

Teachers and related service providers gave feedback on the above survey regarding benefits of the loan program to their current instruction. In addition, students met 2 out of the 3 goals as stated on the survey, by the service providers, at check out. Approximately 258 students had the opportunity to utilize different types of technology in the classroom.

The benefits to the students and the instructional program were listed as 1) improved communication (increased vocabulary, more student interaction, increased voice volume), 2) improved mobility/positioning for learning, 3) more students were able to access the computer, 4) children enjoyed activities and appeared more motivated to learn and move, 5) assisted in meeting IEP goals, 6) gave students independence, 7) teachers/therapists were better able to engage students with physical disabilities into classroom activities, and 8) teachers/therapists had the opportunity to learn current trends in assistive technology and implement it into the curriculum.

Barriers to implementing assistive technology into the curriculum were 1) lack of time for experimenting with the equipment, and 2) the need for ongoing "hands on training" for teachers/therapists.

Conclusion

Project IMPACT AT Preschool was a successful endeavor and continues operation today. The process of utilizing the state discretionary grant process assisted a local district in improving education for preschool students with disabilities. Implementing AT into the curriculum in an ongoing process and challenge that requires each state to implement innovative solutions to meet the unique needs of students with disabilities.

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